micrometastatic LN in 3 patients, and 4) weak FDG uptake in mediastinal ipsilateral macrometastatic LN in 5 patients.

Conclusions: Before therapeutic decision, an abnormal mediastinal FDG uptake must be confirmed pathologically. In certain situations, SEM is also indicated when there is no abnormal uptake in the mediastinum.

P1-058 **Imaging and Staging Posters, Mon, Sept 3**

Correlation of F-18 FDG uptake and glucose transporter type 1 expression in neuroendocrine lung tumors

Chung, Jin-Haeng[1] Lee, Won Woo[2] Lee, Hyun Joo[3] Chung, Doo Hyun[4] Seo, Jeong-Wook[4]

[1] Seoul National University College of Medicine, Seongnam, Korea [2] Seoul National University College of Medicine Bundang Hospital, Seongnam, Korea [3] Seoul National University College of Medicine Bundang Hospital, Seoul, Korea [4] Seoul National University College of Medicine, Seoul, Korea

Objective: Neuroendocrine (NE) lung tumors consist of typical carcinoid (TC), atypical carcinoid (AC), large cell neuroendocrine carcinoma (LCNEC) and small cell carcinoma (SCLC). The determinant of FDG uptake for NE lung tumors has not been well elucidated. The aim of the present study is to investigate the relationship of FDG uptake and glucose transporter type 1 (Glut-1) expression in NE lung tumors.

Methods: NE lung tumor patients (n=32; age, mean ± s.d.=67.8±10y; male:female=28:4) who had underwent F-18 FDG-PET before treatment were enrolled. There were 1 TC, 3 AC, 5 LCNEC, and 23 SCLC. FDG uptake was represented by maximum standardized uptake value (maxSUV). The paraffin sections of the tumor tissues were immunostained for Glut-1 (Neomarker, 1:50). The relation of FDG uptake and Glut-1 expression was assessed by Pearson correlation analysis.

Results: The maxSUVs of all NE lung tumors ranged from 0.6 to 29.5 (mean±s.d.=7.7±5.4), whereas percentage Glut-1 expression ranged from 0 to 100% (18±24%). MaxSUVs of all NE lung tumors were significantly correlated with percentage Glut-1 expression (r=0.6471, p=0.0001). In subgroup analyses, maxSUV was also significantly correlated with Glut-1 expression in SCLC (n=23, r=0.6189, p=0.0016) and in non-small cell NE lung tumors (n=9, r=0.7039, p=0.0343). The maxSUV and the percentage Glut-1 expression were 1.7±2.0 and 5.0±0.0%, 7.9±3.2 and 35.0±32.4%, and 7.6±3.7 and 12.6±14.1% for AC, LCNEC, and SCLC, respectively. MaxSUV of SCLC was significantly higher than that of AC (p=0.007), but percentage Glut-1 expression was not significantly different among AC, LCNEC, and SCLC (p>0.05). One TC case had a maxSUV of 29.5 and 100% Glut-1 expression.

Conclusions: In NE lung tumors, the maxSUV on FDG-PET was highly correlated with Glut-1 immunostaining positivity. This result suggests that Glut-1 expression is one of the determining factors of FDG uptake in NE lung tumors.

P1-059 **Imaging and Staging Posters, Mon, Sept 3**

Contribution of FDG-PET on staging and management of NSCLC planned for concomitant chemoradiotherapy

Diakopoulou, Maria[1] Brodin, Ola[2] Kölbeck, Karl-Gustav[1]

[1] Dept of Respiratory Medicine, Karolinska University Hospital, Stockholm, Sweden [2] Dept of Oncology, Karolinska University Hospital, Stockholm, Sweden

Aims: To investigate whether the addition of FDG-PET to standard evaluation procedure alters tumour stage, mainly by detection of occult distant metastases, and thus has an impact on the final treatment in patients planned for chemo-radiotherapy.

Material and Methods: In June 2003 we added FDG-PET to conventional evaluation of lung cancer in patients with NSCLC planned for high dose radiotherapy with concomitant chemotherapy.

The routine evaluation consisted of clinical examination, chest x-ray, CT-scan of thorax and upper abdomen, bronchoscopy and complementary imaging as needed. The evaluation of the clinical data and the CT-scan was performed in a conference with the participation of at least one experienced pulmonary oncologist and an experienced chest radiologist. Based on the routine evaluation, totally 53 patients (32 men, 20 women) were in stage IIB-III and thus were planned for concomitant chemo-radiotherapy. These patients underwent FDG-PET as the final part of the staging procedure.

Results: In a total of 53 patients, 10 patients (19%) were found to have distant metastases undiagnosed by routine evaluation. The initial management plan was altered in 8 cases (15%).

Conclusion: Adding FDG-PET to routine clinical evaluation is justified also in this clinical setting.

P1-060 **Imaging and Staging Posters, Mon, Sept 3**

Characteristic radiological findings of adenocarcinoma with micropapillary pattern, subtype of adenocarcinoma of the lung

Park, Ji Yeon; Do, Kyung-Hyun; Lee, Jin Seong; Ko, Myung Soo

Deparment of Radiology, Asan Medical Center, University of Ulsan, Seoul, Korea

Background: Papillary adenocarcinoma (PA) is a distinct histological subtype of adenocarcinoma of the lung, but its radiological findings have been rarely reported. Histologically, the micropapillary component is well known characteristic feature of PA and has been found to be a distinct pathologic marker for poor prognosis. The purpose of this study is to evaluate characteristic Computed Tomographic (CT) findings of adenocarcinoma with micropapillary component (PA pattern).

Methods: From January 2000 to February 2006, 1078 consecutive patients were confirmed adenocarcinoma of the lung by histopathology, including 45 PA pattern (M:F=24:21, mean age, 59yrs). Chest CT was reviewed as consensus reading by two radiologists. The CT findings such as size, number, margin, character (consolidation or infiltration, cavity) of tumor, the presence of ground-glass opacity (GGO), spiculation, lobulation, air-bronchogram, bubble lucency, and pleural tagging were assessed.

Results: Dominant CT finding of PA pattern adenocarcinoma was solitary mass or nodule (n=35, 78%). Another finding is central mass (n=9, 20%) or infiltration (n=3, 7%). Spiculation (n=20, 44%) and lobulation (n=25, 56%) are common characteristics of nodules, however, GGO (n=9, 20%) and air-bronchogram or bubble lucency (n=12, 27%) is less